# Innovation and public goods: implications for policymaking and economic development

Juan Manuel Corona A[1] , Gabriela Dutrénit[1], Mario Capdevielle[1],

Carlos Hernández[1], Marina Sanchez[1]

Abstract.

Evers since Schumpeter (1912, 1946) pointed up "new combinations" (innovation) as the most important engine of economic and social change, a great deal of academic work has focus on the understanding on the nature of innovation: What it means? What factors influence firms and nation innovative capabilities? Under which conditions takes place? How much it contributes to economic growth and social development? How public policy could encourage the build of national innovation capabilities? an so on.

Though the progress in answering some of these intriguing questions has been of significant importance from the theoretical and empirical perspective, still remains two challenging issues: A better methodology for measuring and counting innovation activities, and a better understanding of innovation in public goods. There is no doubt that some advance has been made regarding the definition and the measurement of innovation activities (Oslo Manual, 2005; Frascati Manual, 2002, Innobarometer, 2004), and yet these definitions and methodologies have been controversial. Particularly concerns have arisen from their appropriateness to take into count the different dimension of innovation, it seems that these methodologies tend to focus mostly on innovations base on R&D, rather than in minor or incremental innovations which are not R&D depending. But while neglecting or miscounting this type of innovation might be irrelevant in developed countries, it might be a fail in measuring innovation in developing countries where account for a substantial portion of the total national.

Innovation in public goods, and the involvement of government in innovation and in providing these kinds of goods represent another relevant issue, both from a theoretical point of view and from the complexity in capturing its economic and social value. Development theorist from different streams of thought (Rosentein-Rodan, 1943; Myrdal, 1957; Nurkse, 1952; Hirschman, 1958 and Abramovitz, 1986) have firmly stated that in the formative year of industrialisation economic progress depend largely upon a substantial investment in public goods, such as educated workers and entrepreneurs, public education, institutional strengthens and an extended network of communication infrastructure (railways, airports, harbors, roads, motorways, etc.). But public goods have acquired new dimensions nowadays, while economic and social development still rely on investment in education and infrastructure, new kind of

[1] Metropolitan Autonomous University- Xochimilco Unit. Economic Department

public goods emerged in the last decades: open software, public data, public health care (Jha,2004) internet when supplied by government, e-government services, networking. It is now clear that these new kind o public goods play a significant role in driving economy, but it seem also that they are key in facilitating and strengthen innovation activities and capabilities, and therefore innovation in public goods has become increasingly important to understand economic progress and innovation dynamics.

However, as the most accepted definition of innovation, following the Schumpeter tradition, includes new or improved goods, productive processes, services, and new forms of organisation that have been adopted by Market within the productive sector, it exclude a great deal of innovations introduced by the public sector (Koch and Hauknes, 2005) in the form of new or improved public goods. The Oslo Manual for instant does not take into account of the activities of innovation those related to public goods, which in our opinion leave aside an important portion of the national innovation activities, and more importantly, the impact of these innovation in the whole economy and also in the promotion of innovation in the private sectors.

Based on recent findings of an empirical study (Dutrénit, et al, 2011) funded by the Mexican Ministry of Economy, this paper examines the nature of innovation in developing countries (emphasising the case of México) and the role of public goods in promoting private innovation. On the side of Science, Technology and Innovation Policy (STPI), this paper discus the efficiency of the policymaking process when policymakers take decision on supporting innovation under a fuzzy and narrow concept of innovation activities and when the role of innovation in public goods is no well defined. The paper argues that for a better understanding of the nature of innovation and its economic and social impacts, the concept of innovation should be widen in order to include innovations in public goods and those innovations unrelated with R&D, innovations that can be very incremental but with significant effects in local terms.

## References


Abramovitz, M. (1986) ‘’Catch-up, forging ahead and falling behind’, *Journal of Economic history*.

Bramoullé, Y. and Kranton (2006) “Public goods in networks” Journal of Economic Theory, 135, pp. 478-494.

Brenschi, S., and Lissoni, F. (2001) “Knowledge spillovers and local innovation systems: a critical survey*,” Industrial and Corporate Change*, 10(4): 975-1005

Dutrenit, et al (2011) “An study to measure the Mexican federal and State investment in science, technology and innovation activities*” Final Report, Mexican Ministry of Economy*.

Hirschman, A. (1958) The strategy of Economic Development, New Haven, Yale University Press.

Holocombe, Randall G. (1997), ‖A Theory of the Theory of Public Goods‖, Review of Austrian. 10, no. 1.

Jha, S.K., and Mukundan, R. (2004 ) “Linking innovation process to the provisioning of public goods: The case of neglected diseases” The innovation journal: The Public Sector Innovation Journal, vol. 15 (2). Article 7.

Koch and Hauknes, J. (2005) “On innovation in the public sector”, *Publin Report No. D20*. Publin.

Myrdal, G. (1957) La teoría económica de las regiones subdesarrolladas. FCE, México, 1979

Nurkse, R (1952) ‘Some International aspects of the problem of economic developement’, American Economic Review, 42: 571-583.

Romer, P (1990) “Endogenous technological change” *Journal of Political Economy*, Vol. 98, No. 5

Rosenstein-Rodan, P. (1943) “Problems of Industrialization of Eastern and South-Eastern Europe”, Economic Journal v 53, No. 210/211, p 202-11.

Schumpeter, J.A ( 1912) The theory of economic development: an inquiry into profits, capital, interest, and the business cycle. Harward University Press

Stiglitz J.E. (1995) "The Theory of International Public Goods and the Architecture of International Organizations‖. *United Nations Background Paper* 7. New York: United Nations, Department for Economic and Social Information and Policy Analysis.